

DEPARTMENT of ENVIRONMENT and NATURAL RESOURCES Minerals & Mining Program - Oil & Gas Section 2050 West Main, Suite #1, Rapid City, SD 57702-2493 Telephone 605-394-2229, FAX: 605-394-5317 RECEIVED
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DEPT OF ENVIRONMENT & NATURAL

APPLICATION FOR PERMIT TO DRILLESOURCES - RAPID CITY

3	SOU COVITO	89	te.				
Type of work Drift New Well Reenter Well Drill Directional Well Type of well: Other Other							
Name and Address of Operator: Telephone							
Colored to the colore	esources, Inc.	P.O. Box 26887	70, Oklaho	ma City, OK 73126	(405)	234-9000	
Name and Address of Surface Owner:							
Clarkson & Company 12233 Rasmus Road, Buffalo, SD 57740							
Name and Address of Drilling Contractor and Rig Number: Cyclone Drilling, Inc. #1 P.O. Box 908, Gillette, WY 84717-0908							
Surface Location of well: Qtr-Qtr, Sec, Twp, Rge, County, feet from nearest lines of section, and latitude and longitude (if available):							
NENW Sec 20 T21N R4E, Harding Co., 925' FNL & 1425' FWL; Lat: 45 46 26.789; Long: -103 39 37.397							
If Directional, top of pay and bottom hole location from nearest lines of section: Top of Pay: 8851' MD BHL: 2200' FNL & 300' FEL SENE Sec 17 T21N R4E							
Acres in Spacing (Drilling) Unit Description of Spacing Unit							
7675.65 Buffalo Red River Unit							
Well Name and 1	Number	Elevation	Field and Pool, or Wildcat		Proposed Depth and Formation		
BRRU 21-20H		3106	Buffalo	Buffalo 13,927' MD Red River "B		River "B"	
Size of Hole 1) 13 1/2 2) 8 3/4 3) 4)	Size of Casing 9 5/8 7	Weight per Foot 36 23, 26, 29	Depth 1440 8851	657 sks; Type 3; T 953 sks Type III			
Describe Proposed Operations (Clearly State all Pertinent Details, and Give Pertinent Dates, Including Estimated Date of Starting any Proposed Work). Use additional page(s) if appropriate.							
The BRRU 21-20H is a horizontal Red River "B" test located in Sec. 20-T21N-R4E, Harding County, South Dakota. The well will be drilled vertically, approximately to the Silurian Interlake formation, before drilling an 8.75" build section to the northeast and setting 7" casing approximately one foot above the Red River "B" porosity zone. The lateral will then be drilled to the way point, 1600' FSL and 2800' FWL of Sec. 17-T21N-R4E, and continue to the bottom hole at 2200' FNL and 300' FEL of Sec. 17-T21N-R4E.							
I hereby certify that the foregoing as to any work or operation performed is a true and correct report of such work or operation.							
Terry L. Olson Reg. Compliance 11/19/2 Signature Name (Print) Title Date						1 <u>1/19</u> /2012 Date	
FOR OFFICE USE ONLY							
Approved By: Role + Town out Title: Alministrate Mining Pry.							
Approved By: Role + Townson Title: Administration Missels: Mining Prog. Permit No. 2021 API No. 40 063 20738 Date Issued: 12/17/2012 Conditions, if any, on attached page.							



DEPARTMENT of ENVIRONMENT and NATURAL RESOURCES

PMB 2020 JOE FOSS BUILDING 523 EAST CAPITOL PIERRE, SOUTH DAKOTA 57501-3182

www.state.sd.us/denr

PERMIT CONDITIONS

CRI: BRRU 21-20H 21N-4E-20 NENW, Harding County Permit: 2021 API: 40 063 20738

Approval has been granted to drill this location as detailed on the attached Application for Permit to Drill (Form #2) with the following additional conditions:

- 1. This permit is conditioned on compliance with all applicable requirements of South Dakota Codified Laws 45-9 and Administrative Rules of South Dakota 74-12.
- 2. A 12-mil woven, reinforced high-density polyethylene liner must be used on all pits.
- 3. Surface runoff must be diverted around the drill site.
- 4. The surface hole must be drilled with fresh water.
- 5. Cement must be circulated to the ground surface on the surface casing.
- 6. If horizontally drilled:
 - A. The coordinates of the production casing shoe and the well terminus must be filed with the department.
 - B. The azimuth of the horizontal segment of the well must be filed with the department along with the results of periodic down hole surveys.
- 7. If production casing (long string) is set:
 - A. The casing and cementing program submitted with the application shall be followed.
 - B. A cement bond log must be run and filed with the department within 60 days after completion of the well as required by Administrative Rules of South Dakota 74:12:02:12.
- 8. If abandoned, a plugging plan must be submitted to the department for review and approval. The plugging plan should address all requirements found in Administrative Rules of South Dakota 74:12:03.
 - A. If production casing is left in the wellbore, a mechanical integrity test must be conducted to verify the integrity of the casing as required by rule 74:12:03:02(4)(b)(ii).
 - B. The casing string must be cut off at least three feet below the final ground surface contour. A plate with the name of the operator, well name and number, and legal location by quarter-quarter section, township and range must be welded to the casing stub. The location of the abandoned well must be surveyed with high resolution global positioning system equipment or other appropriate survey methods sufficient to accurately locate the well. Survey coordinates must be included in the final abandonment report.
- 9. Surface reclamation of the site must be completed within one year of plugging and abandoning the well
- 10. A washed set of sample cuttings (or cores, if cut) must be shipped, free of charge, to:

Derric Iles Geological Survey Program Akeley-Lawrence Science Center University of South Dakota 414 E. Clark Street Vermillion, SD 57069-2390

11. Please notify this office prior to plugging or MIT so a witness can be on location. If plugging or MIT will occur after regular business hours, call Jeff Klenner at (605) 929-1414.